

METHOD AND SYSTEM FOR PROVIDING HIGH MAGNETIC FLUX SATURATION CoNiFe FILMS



FIELD OF THE INVENTION

The present invention relates to magnetic recording technology, and more particularly to a method and system for providing plated CoNiFe films having improved magnetic properties.

BACKGROUND OF THE INVENTION

Figure 1 depicts a conventional write head 10, which is typically incorporated into a merged head (not shown) including the conventional write head 10 and a conventional read head (not shown). The conventional write head includes a conventional first pole (P1) 20, a conventional write coil 30 insulated by insulating layer 32, a conventional write gap 40, and a conventional second pole (P2) 50. The conventional P1 20 and the conventional P2 50 are separated by the conventional write gap 40 in the region of the pole tip. The conventional P1 20 and the conventional P2 50 are typically composed of ferromagnetic materials. The write coil 30 is used to carry a coil which energizes P1 20 and P2 50 during writing. The insulating layer 32 is typically a hardbaked photoresist.

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In order to improve the ability of the conventional write head 10 to write to higher density media (not shown), it is desirable for at least a portion of the conventional P1 20 and the conventional P2 50 have a high saturation magnetic flux density (B_{sat}) and a low coercivity. A material can be considered to have high B_{sat} when the B_{sat} is above 2 Tesla. A material can be considered to be soft, having a low coercivity, when the coercivity is less than approximately thirty Oe. To fabricate such high B_{sat} , soft ferromagnetic